

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1, 3-8, 13-19, 21, 23, 25-34, 36, 38-44 are pending in the application, with claims 1, 23, and 44 being the independent claims. Claims 1, 4, 21, 23, 25-34, and 36 are sought to be amended. Claims 2, 9-12, 20, 22, 24, 35, and 37 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. New claims 38-44 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Objections to the Claims***

In the Office Action, claims 1 and 23 were objected to because “in the 6<sup>th</sup> to last line of both claims, the examiner believes the comma between ‘value’ and ‘the first’ should instead be a semicolon.” Claims 1 and 23 have been amended to remove the language referenced in the objection, rendering the objection moot. Reconsideration and withdrawal is therefore respectfully requested.

***Rejections under 35 U.S.C. § 103***

**Kanda, Callum, Mano, Bianco**

In the Office Action, claims 1-3, 5-12, 14-19, 22-25, 27, 28, 30-34, and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kanda, et al, U.S. Patent

No. 6,769,063 (Kanda) in view of Callum, U.S. Patent No. 6,320,964 (Callum) and further in view of Mano, "Digital Design, Second Edition" (Mano) and Bianco, et al, U.S. Patent No. 5,365,588 (Bianco). Applicants respectfully traverse this rejection.

Independent claims 1 and 23 were amended by the above amendment. The combination of Kanda, Callum, Mano, and Bianco does not teach or suggest each and every element of amended claims 1 and 23. Specifically, the combination does not teach or suggest:

- first circuitry configured to perform an exclusive OR (XOR) on the expanded first bit sequence and a key provided by the key scheduler to generate a third bit sequence;

- a substitution box (SBox) configured to transform the third bit sequence into a fourth bit sequence;

- second circuitry configured to perform an exclusive OR (XOR) on the fourth bit sequence and a left portion of the input bit sequence for the current cryptographic round to generate a fifth bit sequence;

- permutation logic coupled to the expansion logic and the second circuitry, the permutation logic configured to receive the fifth bit sequence from the second circuitry and to perform a permutation of the fifth bit sequence, wherein the fifth bit sequence is a right portion of an output bit sequence of a current cryptographic round.

as recited in amended independent claims 1 and 23. For at least these reasons, amended independent claims 1 and 23 are patentable over the combination of Kanda, Callum, Mano, and Bianco. Claims 3, 5-8, and 14-19 depend from claim 1 and claims 24, 25, 28, and 30-34 depend from claim 23. For at least the above reasons, and further in view of their own features, claims 3, 5-8, 14-19, 25, 27, 28, and 30-34 are patentable over the combination of Kanda, Callum, Mano, and Bianco. Reconsideration and withdrawal of the rejection is therefore respectfully requested.

Kanda, Callum, Mano, Bianco, Windirsch

Claims 4, 13, 20-21, 26, 29, and 35-36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kanda in view of Callum, Mano, and Bianco, and further in view of Windirsch, U.S. Patent No. 6,760,439 (Windirsch). Applicants respectfully traverse this rejection.

Claims 4, 13, and 21 depend from claim 1 and claims 26, 29, and 36 depend from claim 23. Windirsch does not overcome the deficiencies of Kanda, Callum, Mano, and Bianco relative to claims 1 and 23 described above. For at least these reasons and further in view of their own features, claims 4, 13, 20, 26, 29, and 36 are patentable over the combination of Kanda, Callum, Mano, Bianco, and Windirsch. Claims 20 and 35 were canceled by the above amendment. Reconsideration and withdrawal of this ground of rejection are therefore respectfully requested.

***New Claims***

Applicants have added new claims 38-44. Applicants submit that claims 38-44 are patentable over the cited art. Accordingly, Applicants respectfully requests prompt indication of their allowance.

***Conclusion***

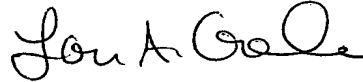
All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for

allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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